

Application No. 09/934,947
Amendment dated March 16, 2006
Reply to Office Action dated February 15, 2006

Docket No. 1232-4756

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-47 (CANCELLED):

48 (NEW): An exposure apparatus comprising:

an illumination optical system for illuminating a reticle using light from a light source; and

a projection optical system for projecting a repetitive pattern on the reticle onto an object to be exposed,

wherein said projection optical system includes an optical element comprising an isometric crystal,

wherein the angle between the $[0\ 0\ 1]$ axis of the isometric crystal and the optical axis of said optical element is set lower than 10° , and

wherein the $[0\ 1\ 0]$ axis perpendicular to the $[0\ 0\ 1]$ axis in the isometric crystal is inclined to a direction of repetition of the pattern by 10° or greater.

49 (NEW): An exposure apparatus according to claim 48, wherein the direction of repetition the pattern forms an angle of 0° , 45° or 90° with a reference direction of the reticle.

50 (NEW): An exposure apparatus according to claim 48, wherein said angle between the $[0\ 0\ 1]$ axis of the isometric crystal and the optical axis of said optical element is 0° .

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51 (NEW): An exposure apparatus according to claim 48, wherein the maximum angle between the light incident on the optical element and the optical axis of the optical element is 25° or greater.

52 (NEW): An exposure apparatus according to claim 48, wherein said projection optical system includes n optical elements, arranged around an optical axis so that the $[0\ 1\ 0]$ axis of one of the optical elements and the $[0\ 1\ 0]$ axis of another of the optical elements form an angle within $90^\circ/n \pm 10^\circ$ with each other.

53 (NEW): A device manufacturing method comprising the steps of:
exposing an object using the exposure apparatus according to claim 48; and
developing the object that has been exposed.